

REMARKS / DISCUSSION OF ISSUES

Claims 1 – 11 and 14 – 20 are pending in the application. Claims 1 and 11 are independent.

In the present response, claims 1 – 11 and 14 – 20 are amended for formality, clarification and consistency reasons. No new matter is added.

35 U.S.C. 102(e)

Claims 1 – 11 and 14 – 20 are rejected under 35 U.S.C. 102(e) over Cimini, JR. et al. (US Publication No. 20030133427, hereinafter "Cimini").

Applicant submits that for at least the following reasons, claims 1 – 11 and 14 – 20 are patentable over Cimini.

For example, claim 1, in part, requires:

"determining an allocated transmission time for each of the wireless stations based on a set physical transmission rate, wherein each of the wireless stations has individually allocated transmission time based on at least the quantity of data that needs to be transmitted within the service interval by each of the wireless stations." (Emphasis added)

In the Office Action, page 4, Response to Arguments section, the Office broadly interprets the phrase "*the amount of data that needs to be transmitted within one session by each of the wireless stations in a session*" as "*the amount of data (rate) that needs to be transmitted (transmission rate) within one session (communication between a mobile terminal and an access point) by each of the wireless stations.*" Applicant respectfully traverses the Office's interpretation. Applicant submits that an amount of data should not be interpreted as a data rate because the former is a measure of quantity of data (e.g., in units of Mbit, see, for example, Applicant's specification, page 6, lines 6 – 8) while the latter is a measure of how fast is the data flow (e.g., in units of Mb/s, see, for example, Applicant's specification, page 1, lines 30 – 31). In the present response, Applicant clarifies that this claim limitation is in regard to: "*the quantity of data that needs to be transmitted within the service interval by each of the wireless stations.*"

Although Cimini discusses bandwidth needs when a mobile terminal is in communication with an access point in general, there is no discussion on the needs specific to a particular service interval. Specifically, there is no discussion on the need to transmit a quantity of data for the service interval.

In Fig. 10 and paragraphs [0057] - [0060], Cimini teaches that the transmission time also depends on the impact of the packet shaping process, i.e. limiting packet size (amount). Applicant submits that the packet size only relates to the amount of data being transmitted in a packet, and that the packet size is not the same as the quantity of data that needs to be transmitted within the service interval by the station. This is because within a service interval, multiple packets may be transmitted. Cimini, page 1, paragraph [0005] and [0003], and Fig. 5, teaches that each of the wireless stations has an individual transmission time based on the need (requirement of mixed rate nodes) of each of the wireless stations. Apparently, Cimini is not concerned about how much data that needs to be transmitted within the service interval by each station, but rather is only concerned about the nodes' transmission rates. That is, the needs of Cimini's stations are related to transmission rates, not the quantity of data to be transmitted within the service interval. As already discussed above, it is unreasonable to interpret a quantity of data as equivalent to a data transmission rate. Therefore, Cimini does not teach or suggest any allocation that is based on a quantity of data to be transmitted.

Cimini, apparently discloses that the packet size is chosen inversely proportional to the node data rate (paragraph [0042]), and that packet size is set so that the maximum transmission times of different data rates are approximately the same (paragraph [0050]). In contrast, the claimed invention requires that an allocated transmission time depends on a set physical transmission rate wherein each of the wireless stations has individually allocated transmission time based on at least the quantity of data that needs to be transmitted within the service interval by each of the wireless stations. Therefore, in the claimed invention, the transmissions times of the wireless stations are not necessarily approximately the same because the quantity of data that needs to be transmitted within a service interval by each wireless station may

not be the same. Whereas, in Cimini, the maximum transmission times of different data rates are approximately the same.

Cimini is related to packet shaping for mixed rate 802.11 wireless networks. As noted in Cimini, paragraph [0031], a node obtains transmission time by a contention-based access mechanism (CSMA/CA). Therefore the access to the wireless medium for transmission is sought by the node itself, not by allocation. In accessing the wireless medium using a contention-based access mechanism, there is no mechanism or need to determine how much data that needs to be transmitted within a service interval by each of the nodes. There is no individual allocation of transmission time based on the quantity of data that needs to be transmitted within a service interval by each node under CSMA/CA. Therefore, a skilled person would not be led to individually allocate transmission times for the node.

Therefore, Cimini fails to disclose the claimed feature: determining an allocated transmission time for each of the plurality of wireless stations based on a set physical transmission rate, wherein each of the wireless stations has individually allocated transmission time based on at least the quantity of data that needs to be transmitted within the service interval by each of the wireless stations.

In view of at least the foregoing, Applicant submits that claim 1 is patentable over Cimini.

Similarly, independent claim 11, in part, requires:

"the access point allocates a transmission time for each of the wireless stations based on their transmission requirements at a set physical transmission rate that is fixed for the service interval, wherein each of the wireless stations has individually allocated transmission time based on at least the quantity of data that needs to be transmitted within the service interval by each of the wireless stations."

Claim 11 is different from and should be interpreted independent of claim 1. However, the Office Action rejects claim 11 based on similar arguments as discussed in claim 1. Thus, Applicant essentially repeats the above arguments for claim 1 and applies them to claim 11 pointing out why Cimini fails to disclose the above claimed features. Therefore, claim 11 is patentable over Cimini.

Claims 2 – 10 and 14 – 20 are patentable because at least they respectively depend from either claim 1 or 11, with each claim containing further distinguishing features.

Withdrawal of the rejection of claims 1 – 11 and 14 – 20 under 35 U.S.C. 102(e) is respectfully requested.

Conclusion

In view of the foregoing, Applicant respectfully requests that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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